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THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

VOL. IX NO. 7. CLEVELAND. O., FEBRUARY 17. 1887. $2.00 PER ANNUM SINGLE COPIES 5 CENTS

AROUND THE LAKES.

CLEVELAND.

Captain Alex. McDougall of Duluth was here last Monday.

Mr. Warner G. Tilton, goes as chief engineer of the steamer Cormorant, this coming season.

Captain Charles Norton, of steamer Kate Butteroni from Marine City, spent several days here lately.

George S. Elsworth will go as assistant engineer with Daniel Conway on the steamer J. S. Fay next season.

John Smith last season engineer of the Colonial, will go in the same capacity on the Onoko the coming season.

Captain Ed. Mooney, of the steamer Vienna, will make a three weeks pleasure trip to New York city.

Engineers T. B. Kelley, George E. Averill and Charles Rice will go to Buffalo Monday to fit out the Wallula, Tower and Kasota.

Mr. P. H. Fleming of Beckwith & Fleming, vessel agents, Chicago, spent Sunday and Monday last, in the city on his return trip from the east.

Mr. C. G. King has sold 1-20 of the propeller Onoko to George Freeman for $9,500. The above price is evidence that the great Onoko does not depreciate in value much.

Messrs. Duffy & O'Rourke have purchased the schooner Maria Martin. Consideration $18,000. The Martin was built by Quayle & Martin at Cleveland in 1866 and measures 568 tons.

Captain E. B. Anderson, master of the fine Canadian Pacific steamship Alberta, who has been spending a few days in the south, stopped in the city a few days this week. Captain Anderson believes that there will be a good passanger and package traffic on the line boats next season, and that the prospects for a profitable season for all classos of floating property are good.

Mr. John F. Pankhurst, manager of the Globe Iron Works Company, in company with Manager Henry of the Lehigh line, visited New York city last week to learn what New Yorkers knew about steamboat and engine building. They were shown over the new freight steamer H. F. Dimmock. and were well pleased with the ship and the working of her machinery.

The sixth annual ball of the M. E. B. A. will be held at Rhodes' hall, corner of Pearl and Franklin streets Friday evening, February 18. Business committee, O. N. Steele, M. B. Sturtevant, John Thomson; reception committee Robert Wallace, Q. Miller, R. Hay; supper committee, John Smith, John Aiken, James Chase; sergeant-at-arms, J. T. Mead; floor directors, O. N. Steele, C. M. Stoddard; floor managers M. B. Sturtevant, Wm. Lloyd, Frank Radcliffe, F. C. Chadwick. Music by Freeman & Boston's full orchestra.

John Kelly and L. D. Sanborn are the owners of the steambarge, James H. Prentice, against whose captain, A. H. Gaines, the United States circuit court grand jury lately returned a true bill in a charge of assault and battery made against him by Edward Spencer. The owners of the vessel, Kelly and Sanborn, have also been sued by Spencer for $10,000 damages, which he demands for the injuries sustained by the assault and battery committed on him by their captain. The trial in the latter suit was begun last week in the United States circuit court before Judge Welker. Spencer is an Englishman by birth, and he was one of the crew commanded by Captain Gaines. On October 27 while, the vessel was en route from Lorain to Cleveland, Spencer says he received injuries which were of a most serious nature. The weight of the captain's testimony was to the effect that Spencer had violated his order and defied his authority, and that it is the privilege of a captain to discipline his crew, which argument was sustained by Judge Welker and the case dismissed. The cause of assault in the criminal court will take place before Judge Welker as soon as the civil cases on the docket are disposed of, probably by Monday of next week. Captain Gaines feels confident of winning this case also.

Captain Ira H. Owen, of Chicago, was in the city this week.

The name of the steamer, at the yard of Quayle's Sons is the Samuel Mather. This fine steamer will be commanded by Captain Richard Neville. The other steamer at the same yard will be called the Robert Rhodes. This is a good day for naming steamboats.

A. R. Smith, an alleged lake sailor, has been tried for the murder, over a year ago, of his wife and a Mrs. Wilson. The jury declined to bring in a capital verdict, but considered him guilty of murder in the second degree, which involves imprisonment for life.

Vessels have been chartered to deliver the greater part of 2,000,000 tons of ore that is to come from Lake Superior next season. The lake freight market has been very active this week. The big propeller Onoke is chartered for nine trips from Ashland at $1.85. The Onoko is to carry coal on only five trips. Her first trip of the season will be a grain haul. Charters running to the first and middle of September are at $1.75 and $1.85. Mr. Cuson, manager of the propeller W. C. Whitney and consort Wayne, is reported to have said that his boats are chartered at $2 for the season from Ashland. The steamers Ohio and D. W. Wilson and the schooners Manitowoc and C. B. Jones are chartered at $1.45 for the season from Escanaba. The propeller Hubbell and consort Johnson are reported as chartered to run to October 10 from Marquette at $1.60. This is the best rate as yet paid from Marquette.

The propeller Jim Sheriffs has been bought by C. E. Gowan, representing the Kelley island lime company for $70,000. In this Wolf & Davidson of Milwaukee have certainly made a good sale.

PORT HURON.

Special to Marine Record.

The propeller Dean Richmond will be supplied with two new boilers by Love & Schofield.

The steamer J. C. Clark will be put on the route between this city and Sarnia in the spring, by Sarnia people, as a ferry.

The tug O. W. Cheeney, of Bay City, has been purchased by Chas. D. Thompson. She will be brought here in the spring to be run as a harbor tug.

The steamer A. J. Wright is receiving an extensive overhauling at the Wolverine drydock. She will be on the route as before, from Port Huron at Port Austin.

Captain West Brown, formerly of the John F. Eddy, will sail the barge M. R. Goffe. He has purchased a one-fourth interest in her.

Captain Frank Holland, formerly of the steambarge Cleveland, will sail the barge Concord next season.

The Canadian steamer J. C. Clark will be converted into a ferry for next season, I should think they would want one more ferry after the Essex. There is now only four and one can do all the work there is to be done and some harbor towing also; more the merrier; anything for opposition.

The Phœnix Iron Works, have a large force of men working on the boilers for the tug Sumner of Alpena.

The steamer Oscoda is receiving a general overhauling before going in the lumber trade. Captain Alex. Sinclair will command as usual.

C. M. Green, the painter has turned his whole attention to the painting of boats. He has received the contract to paint thirteen for this spring. C. M. can get there if they will give him one half a chance and as to lettering he is the boss.

The work of getting the tug Jas. Reid and Kittie Haight, of Runnels' line, ready for spring has begun in earnest.

Captain Vick Bonnah, Sr., has purchased the scow Ino from Detroit parties for $2,500 and will put her in the lumber trade between Alpena and Port Huron.

Captain Vick Bonnah, Jr., will command the A. G. Morey of Grummond's line.

ROCKIE.

TOLEDO.

Special to the Marine Record.

Steambarge Fred McBriar, which is laid up at this port, has been sold to the Miner Lumber Co., of Alpena, for $41,000. Captain Dan Cleary, formerly of the Westford, will command her next season.

Albert Renders, formerly mate of the propeller Inter-Ocean, will command the barge J. T. Edwards, of the T. S. and T. Co.'s line, this season.

Captain Betts, of barge Fassett, was in the city, from Bay City, on the 15th.

Tugs Farragut and Syracuse have been working for the Penn. R. R. Co., in repairing their bridge which the ice carried away.

Captain C. S. Geel, of Port Huron, is in the city, looking after repairs to the barge Galatea.

Steambarge Curtis and tow, of the T. and S. T. Co., will be in the ore trade this season, between Escanaba and Ohio ports.

Schooner Galatea will be taken down to Gilmore's drydock this week to receive a double deck.

Mose Bose is at work, fitting up his drydock, and expects to have the same ready for business the latter part of this week.

Steam canal boat Earnest is running between Taylor's mill and the elevator. She is the first freight carrier that is out this season for business. S.

EAST SAGINAW.

Special to the Marine Record.

The prospects for a breakup at this port are good if the present weather continues a few days longer. The river has come up nearly nine feet in the past week, and is still on the rise, the water being over the docks in many places. Any number of cellars are full of water, and a considerable amount of damage has been done. The Moiles Bros., owners of the tug Tom Dowling, who are rebuilding her at Bartlett & Company's dock, have been compelled to suspend operations. Also work on the steamer Lucile, which is receiving new engine, shaft and wheel at Bartlett & Company's.

The barge Star of the North is having a new bow put on which will greatly improve her sea going qualities. She is fast nearing completion.

The steam yacht N. H. Bruno, has been lengthened out fifteen feet, and her owner thinks she will make 'em all sick the coming summer for speed.

The river line steamer W. R. Burt, has undergone very extensive alterations during the winter. She will be used for the excursion business during the season. The forward cabin has been removed, and the space will be filled with chairs thereby giving them an unobstructed view of the river ahead. Mr. English, the owner of the line, also intends to reduce the running time of the boats between this port and Bay City to one hour. The old time being one and a half hours, which move will be appreciated by the traveling public.

Captain Jas. Bell, S. V. Haskell, and Cross, Randel & Gordon, lumber company, have bought the tug A. W. Wright, from W. R. Burt, of this city, for a consideration of $3,000, a new boiler is to be put in and when she comes out Captain Jim. promises to make things lively for the boys.

The new fire patrol passenger steamer Ploy Boy, owned by Captain Armstrong, is fast beginning to look like a steamboat, the cabins being nearly completed. It is understood that she will run between Bay City, and this port, and the prospects are that the river route will be well supplied with boats next season.

Captain Chas. Sonsmith, has returned from Chicago. The Rosa Sonsmith, the captain reports, has been loaded with 49,000 bushels of corn and the steamship G. H. Green with 43,600 bushels. The Mattie C. Bell is taking on a full cargo of flax seed at 6½ cents per bushel. For the corn six cents per bushel will be received. The fleet are all loaded for Buffalo.

The case of Mrs. Regina Burnstine, who sought to recover for the loss of a trunk from the owners of the steamer W. R. Burt, the court has decided that owing to the trunk in question having been smuggled through by one of the crew as his own. The company could not be held responsible.

Captain Byron Armstrong, master of the elegant passengers steamer Ossifrage, of Bay City, was in the city Sunday. Byron says his steamer will run in connection with other steamers at the Soo during the coming season. Extensive alterations are being made to fit her for this service. The cabin being run full length of the boat, and, other conveniences put in. The engine has also been made a low pressure, which will add greatly to economy of fuel. It is rumored that the captain comes to East Saginaw, quite frequently, and 'tis said that when the next census is taken, Bay City will have one more of East Saginaw's worthy people. SHAW.

FRANKFORT.

Special to the Record Marine.

Mahar Bros., of Saginaw, visited Frankfort, looking over the small propeller, J. D. Dewar and Geo. Sanford, in view of placing them as passenger boats on Saginaw river route.

Rumor has it that Captain Richard Smith, is about to purchase a tug for the fishing trade.

Captain Geo. Waters, is busily engaged in building a new cabin on his tug Cynthia.

The tug John Smith is being rebuilt at Manistee, and will be completed about March 15th.

Lake Michigan, in vicinity of Frankfort, is clear of ice as far as the horizon.

Grand Traverse Bay is frozen over, strong enough for travel.

At Manistee, the propeller Adrienne is having her cabin enlarged, her pilot house raised a foot and placed further forward.

Tug Col. Payne, was recently sold at U. S. marshal sale, at Charlevoix, for $800.

Chicago papers in their marine report have the propeller Nipigon, in winter quarters at 16th street, Chicago. As she lies in a wrecked condition at Frankfort this is evidently an error.

Steambarge Edward Smith and consort will travel between Frankfort and Tonawanda next season. BURMEISTER

MARINE CITY.

Special to Marine Record.

The river is still frozen over at this place, and looks as if it would stay so.

Mr. Sid McGlaugh, engineer of the steambarge Glasgow, paid this city a visit from Bay City.

Mr. Anderson, foreman of James Davidson's shipyard of Bay City, is in town to see a sick daughter.

Mr. Frances, of Bay City, formerly of this city, is in town for a few days on business, and his views of the coming season are very gratifying. He is part owner of the steambarge George King and says she has just been put in the dock at Port Huron for a thorough rebuild and to include 20-inch by ¾ steel arches, be fitted for the ore trade, and will tow the Teutonia. The steambarge M. Sicken will take the King's former tow, the barges Levy, Rawson, and C. L. Young, and trade to Buffalo.

GLASS.

KINGSTON.

Mr. Stewart, formerly engaged on the propeller Resolute, running between Deseronto and Oswego, will be engineer on the steamer Hero this season.

OSWEGO.

Special to the Marine Record.

Captain T. Farrell, who sailed the schooner Nassau, last season, will command the schooner Lem Ellsworth for 1887. A.

MARITIME LAW.

SALVAGE—SERVICES RENDERED AT THE REQUEST OF CONTRACTOR—KNOWLEDGE OF AGREEMENT.

Stevens v. the G. Barber.

District Court, W. D. Michigan, S. D. August, 6, 1885.

One who declines to assist a stranded vessel when requested by her master, but who subsequently, without any such invitation, joins in the undertaking at the request of one who, for a fixed price, has undertaken the work, with a full knowledge of the relations of the parties, and the terms of their agreement, must look to the contractor, and not to the vessel or her proceeds, for payment.

In Admiralty. Libel *in rem* for salvage.

Crinckshaw & Grier, for libelants..

M. C. & A. A. Krause, for respondents.

Withey, J. The libel in this case is for the recovery of salvage performed by the tug Joseph H. Martin, of Charlevoix, upon the schooner G. Barber, while a wreck on the beach near Leland, on the west shore of Lake Michigan, in this district. The services were rendered in June and July, 1884, for which $560 are claimed. Andrew Holman, master and managing owner of the schooner, has appeared and answered, setting up as a defense that libelant's services were not performed at the instant or request of either the master or owners of the vessel, but at the request of Eli Toulouse, who undertook to rescue the wreck, and take her into port, for a title to one-half of the vessel, and that libelant, at and prior to the time of the alleged services, had notice of such contract undertaking. The answer also states, by way of demurrer, that it appears on the face of the libel that lebelant is the owner of but one-half of the tug J. H. Martin, and therefore cannot maintain the suit by reason of the non-joinder of the other owner. I shall dispose of the case on other grounds than the non-joinder of the owners as libelants.

The matters set up in the answer as a defense to the merits of libelant's claim of a lien are fully sustained by the evidence. There is no dispute as to whether the services were rendered, nor as to their value. The schooner went onto the beach in April, 1884. No effort was made to relieve her until June, when Captain Holmand applied to libelant to go with his tug to her rescue, which he refused to do. Libelant says in his testimony that the reason of his refusal was he did not know the condition the vessel was in, was not acquainted with Captain Holmand, and was unwilling to go to work without a guaranty of payment. The captain then applied to Captain Eli Toulouse, of the tug Payne, of Charlevoix, and offered him title to one-half of the schooner if he would release and take her into port. Toulouse finally accepted the terms, and entered upon the undertaking. He left Charlevoix for the wreck, and, at Leland, sent, June 11, 1884, a telegram to the tug Martin at Charlevoix to come that night to the schooner Barber with 100 oil barrels. Libelant received the dispatch about midnight, and at once proceeded to take on the barrels, where the dispatch indicated they would be found, and convey them to Leland. Here they were received by Toulouse and the Martin returned to Charlevoix. A short time subsequent to freighting the barrels, the tug Martin was taken by libelant to the wreck, at the personal request of Toulouse, and there engaged her in dredging a channel to where she lay on the beach. Before completing such work libelant returned with his tug to Charlevoix to tow out vessels, but soon sent back the tug in charge of another captain, with Toulouse and a double crew upon her, and renewed with her the work necessary to rescue the wreck. On this occasion the vessel was moved into deeper water about 20 feet, but she settled down, her bottom resting on the sand, her decks under water to her forward hatch.

Captains Holmand and Toulouse were present, as they had also been on the previous occasion, assisting in the work. It appears to have been the opinion of both that the vessel would not float in her then condition, and Toulouse expressed a determination to abandon his undertaking, and remove from the wreck his barrels. He even made an attempt to accomplish this; but some objections being made by Captain Holmand, and it being suggested that additional barrels ought to be procured and further effort be made to float the schooner, Toulouse concluded to and did return to Charlevoix with the tug Martin and crew, without any definite understanding of what further would be done. After waiting at Leland for about 10 days, without hearing from Toulouse, Captain Holmand went to Frankfort, and engaged the owners of the tug Hall of that port to go to work to rescue the vessel. On his return from Frankfort he met Toulouse, on his way to the wreck for his barrels, and informed him of the engagement of the Hall. Toulouse was dissuaded from his purpose of abandoning the wreck, requested Holmand to wire the Hall to come to the wreck at once, which she did, and in a few hours the schooner was afloat. Captain Holmand then offered Toulouse, in case he would pay the charges of the Hall, and take the vessel into port at Charlevoix, to carry out the contract, and convey to him one-half of her. To this Toulouse consented, and the Payne towed the vessel into port.

Captain Holmand, within a short time, caused to be conveyed to Toulouse half of the schooner, and proceeded to make repairs on her at a cost of about $1,000, occupying about three months in fitting her up, when she was employed in freighting. Subsequently, some time during the following winter, I believe, she was libeled by the owners of the tug Hall to enforce a lien for salvage, which service Toulouse had neglected to pay. A decree has been rendered in their behalf, and the vessel has been sold for $982, which sum is now in the registry of the court.

At the time the schooner was towed into Charlevoix, before the repairs were made, she was of the value of not more than $300. When fully repaired, her value was about $1,300. Captain Holmand paid for the entire cost of the repairs, except twenty or thirty dollars paid by Toulouse. The sum decreed in favor of the owners of the tug Hall is $245. Captain Holmand is sole claimant before the court for the remnant, which will be considerably less than he expended on repairs subsequent to the time the claims accrued for salvage.

Such being the substantial and material facts of the case, it appears that Captain Toulouse had a definite and explicit bargain with Captain Holmand to release the wreck for title to one-half interest in her, and that libelant knew of such bargain, and assisted in the work at the special instance and request of Toulouse, having previously refused to go to work on the credit of owners or of the vessel. It is manifest, under the facts, that Toulouse would have no action *in rem*, and I think it equally manifest that libelant cannot maintain an action *in rem* against the ship, for the reason that the maritime law gives no lien in such case. It was incumbent on the claimant to show that there was a definite bargain with Toulouse as to the compensation he was to receive, but this he has done. There is no foundation for claiming that libelant understood that he was rendering assistance at request of the master of the vessel, or for saying that he understood his work was being done upon the credit of the vessel or of her owners. His refusal to work on her without first being secured, and subsequently assisting at the request of Toulouse with notice of the latter's undertaking, without any conference whatever with Captain Holmand on the subject, renders it quite clear to an impartial mind that libelant had no such understanding.

A reward for salvage is not generally participated in by those who fail to effect a rescue, if they voluntarily and without justification abandon the wreck; and, when compensation is awarded, it is usually a share of the property rescued, and nothing more. In which case, if libelant's claim was enforceable, as the value of the rescued ship was but $300, this would be the compensation, at most, to be shared between all the salvors. The evidence shows that libelant made no claim upon Captain Holmand or the vessel until after the repairs were made, though they were made at Charlevoix, where libelant resided, and employed his tug in towing vessels in and out the harbor, and not until half the vessel had been conveyed to Toulouse in fulfillment of the contract made with him. All the facts go to defeat all claim of justice and equity on the part of libelant. Any other view than that I have expressed would give to one so disposed, who contracts to relieve a vessel in distress, for a definite price or specific payment power to do great wrong to her owner. The owner, Captain Holmand, and his original co-owner, are not liable *in personam*, under the facts presented by the evidence; whereas Toulouse manifestly is liable, and there would be barefaced injustice to allow libelant, upon the plea of a claim for salvage, to take funds belonging to the claimant Holmand, by decreeing a lien against the ship for a debt owing by Toulouse, and by him only.

The usual decree will be entered, in accordance with this opinion, dismissing the libel of Hiram S. Stevens, and for costs in favor of claimant against libelant and the stipulators.

Water expands by freezing and as the bulk is increased the gravity must be less. Nine cubic inches of water becomes ten when frozen.

SANDUSKY DISTRICT.

Captain T. C. McGee, an old time mariner, has compiled a list of vessels, built, owned or documented in the Sandusky district since 1822 for the MARINE RECORD. The list will be continued in until all are told:

SCHOONERS.

Name.	*Where Built.*	*Y'r*	*Ton.*
Arabella	Vermillion	1847	66
C. C. Griswold	"	1854	354
Elmina	Black River	1852	52
Live Yankee	Milan	1854	250
Elizabeth	Hartford	1854	35
Eclipse	Milan	1854	253
Berlin	"	1854	269
Industry	Cleveland	1847	92
Whip	"	1849	76
Eagle	Conneaut	1852	27
Almira	Sheffield	1849	80
Comfort Ann	Avon	1847	36
Sebastopol	Milan	1855	295
Uncle Tom	"	1855	296
Linden	Vermillion	1848	98
Rush	Black River	1853	176
Queen City	Vermillion	1855	368
Daniel Boone	Milan	1855	231
David Pierce	Ashtabula	1854	25
Darien	Milan	1855	298
Mary Ann	Ottawa Co	1843	51
E. S. J. Bemis	Milan	1855	294
Live Oak	Huron	1855	219
Hunter	Milan	1855	172
Wild Rover	"	1855	291
J. P. Kirtland	Huron	1855	312
Wellington	Vermillion	1855	298
R. J. Gibbs	"	1855	170
General Scott	Fairport	1855	27
Clyde	Huron	1846	307
Mountain Maid	Fairport	1852	44
Nonpareil	Milan	1856	315
W. J. Prior	Michigan	1848	103
Lively	Milan	1856	293
New London	Vermillion	1856	339
Surprise	Milan	1856	290
B. Parsons	Vermillion	1856	304
F. T. Barney	"	1856	354
Dardanelles	Milan	1856	308
Fmeu	"	1856	310
Kelpie	Huron	1856	165
Cuba	Milan	1856	294
Lucy Long	Vermillion	1856	9
Republican	Huron	1856	334
Iron Sides	Vermillion	1856	330
Fremont	Perrysburg	1856	286
Prosperity	Port Clinton	1853	28
C. Rich	Richmond	1854	31
Louisa	Avon	1847	34
J. C. Fremont	Milan	1856	215
Presto	Huron	1857	247
Temperanee	——	1854	42
R. B. Hubbard	Sandusky	1857	136

STEAMERS.

Comet	Sandusky	1854	46
Island Queen	Kelley's Island	1855	168
Swan	Sandusky	1857	30

SLOOPS.

Harlequin	Milan	1856	19
Sioux	Vermillion	1856	8

THE DESTROYER.

A bill to purchase Captain John Ericsson's new war vessel, the Destroyer, and ten enlarged vessels of the same type, is now before the senate committee on naval affairs.

In any scheme of defenses adopted it is probable that the Destroyer and her sister monsters will form the most important feature. The illustrious engineer, whose creation, the Monitor, materially affected the results of the late war by the defeat of the confederate iron-clad, the Merrimac, in Hampton Roads in March, 1862, now comes forward in his 84th year with an invention which will create as great a revolution in the naval warfare of to-day as did the Monitor in that of a generation ago.

The Destroyer is the result of about twelve years of constant experiment. After devoting nearly five years to working out the problem of torpedo explosives, Captain Ericsson succeeded, in 1880, in developing a projectile of such force that its shock was estimated sufficient to utterly destroy any war vessel afloat. A series of experiments led to the idea of substituting gunpowder for compressed air in the propulsion of submarine torpedoes charged with dynamite. Most of these experiments were conducted with a muzzle-loading gun, 15 inches calibre and 30 inches long. This gun was suspended under the bottom of two wrecking scows, being lifted out of the water after each discharge by shears and tackle.

Outwardly the Destroyer is simply an unarmored iron-clad vessel with wedge-shaped bow and stern. It is briefly described by the inventor as follows:

"The Destroyer is an iron vessel 130 feet long, 17 feet wide, 11 feet deep, protected by a wrought iron breastwork of great strength applied near the bow. The submarine gun, a formidable piece of ordnance of 16-inch calibre and 30 feet length, is placed on the bottom of the vessel, the muzzle projecting through an opening in the stem. The projectile expelled by the submarine gun is 25 feet long, its weight being 1,500 pounds, including an explosive charge of 300 pounds of gun-cotton. It is hardly necessary to point out that the carrier of the submarine gun is intended to supersede the costly ships called steam rams, admitted to be the most powerful offensive weapons for naval purposes hitherto constructed. The Destroyer attacks bows on, and discharges the projectile at a distance of three hundred feet from the ship attacked. Experts need not be told that the explosion of three hundred pounds of gun-cotton against the lower part of a ship's hull will shatter it so completely that the expedient of employing water-tight compartents will be of no avail. Naval experts who have been present during the trials of the submarine gun of the Destroyer can give good reasons for not taking a warm interest in the present contest between armor plates two feet thick and 100-ton guns."

It may be added for the clearer comprehension of those not experts that the water is prevented from rushing through the gun into the bilge by an out-board valve opened and closed automatically. The body of the torpedo is of wood, shaped like a huge cigar. The point or dynamite end is made of copper. The initial velocity with which the torpedo leaves the gun is at the rate of 160 miles an hour, or 250 feet a second. With a minimum charge of powder in the gun the projectile traverses the first 310 feet in three seconds. In the experiments made by a naval board two years ago common cord nettings were used to determine whether there was really any trajectory in the travel of the torpedo. At firing distances of 250 feet the course of the torpedo through the water was in a perfectly straight line. The tide currents had no effect on the course of the torpedo, nor could its course be detected as it traveled through the water. The torpedo is exploded by concussion, and is calculated to strike a vessel at any point below the water line. The machinery of the vessel occupies a space less than eight feet square, and is entirely below the water line and below the intermediate deck, so that it is impossible for the boat to become disabled from the shots of the enemy.

An important feature in the construction of the vessel is an intermediate, curved deck, extending from stem to stern, and composed of plate iron, strongly ribbed and perfectly water-tight. This intermediate deck sustains a heavy, solid armor plate, placed transversely to the line of the keel, 32 feet from the bow, inclined at an angle of 45 degrees, and supported on the after-side by a wood-backing 4½ feet deep at the base. The steering wheel is behind this wood-backing. A deck cabin 70 feet long above this intermediate deck affords quarters for the officers and crew. The helmsman occupies a pit in the forward end, from which he not only steers the vessel, but discharges the gun by an electric battery upon signal. He watches the vessel's course and the position of the enemy through a small port hole of heavy plate glass, and is protected by wrought-iron invulnerable armor plate 16 inches in thickness.—*New York World.*

OPEN THE PORTAGE CANAL.

Nobody who passes through the river, lake, and canal which makes a waterway across the Keweenaw Peninsula, can fail to be struck by the fortunate position of the natural channels which almost connects Keweenaw Bay and Lake Superior, and by the strange neglect of the government to use the opportunity afforded to open a great highway of commerce through this rocky point of land. Nature has done nearly all that is needed, and man has furnished only a miserable apology for the rest of the work. The canal proper, which forms the western end of the Portage passage, is only about a mile and a half long, and in this short distance no deep cutting or formidable natural obstacles were encountered. All the rest of the distance across the great peninsula was left ready for use with but a little straightening and deepening of the natural channels. At present the canal is the property of a private corporation which charges a regular toll upon all vessels which pass through it, and there is only twelve feet six inches of water in the narrow channel. The end of the canal opens into a little pocket between short piers, which makes a small enough target for a steamer to aim at in fair weather, and for a ship in distress in a storm it would be only a mockery. The situation is just the same at the east side of the point. Vessels half laden, on the west bound trip, go through the Portage Laks channel, but are forced when coming down with full cargoes, to pass around the stormy point and run many hours' journey out of their way, simply because they cannot pass through the shallow Portage river and the canal. If the entire Portage waterway were straightened out a little, the channel more clearly defined, a minimum depth of sixteen feet of water provided, and the tolls on the canal abolished, and there would be an enormous saving every season in the cost of fuel, in time, and in loss through storms encountered in rounding Keweenaw Point. The commerce of Lake Superior, especially that which originates at the new and flourishing ports of Ashland and Washburn, would be immensely benefited, and the vessel interests of the whole lake system would profit by this much needed improvement. From the long neglect of the work the natural inference would be that a great outlay was required, but such is not the case. The board of engineers which has examined the situation, under direction of the war department, reports that the Portage canal can be acquired by the government, the channel deepened to sixteen feet throughout, the canal widened to a minimum of seventy-five feet, and adequate harbors of refuge provided at both ends of the Portage passage, for a total of $1,645,000, or about one week's surplus revenue of the United States government. When a minimum depth of twenty-five feet of water shall be demanded by commerce it can be provided by the outlay of $730,000 more, or $2,375,000 in all. The war department concurs in the recommendation of the board of engineers that this improvement be at once undertaken, and it is to be hoped that Congress will take the hint immediately. The matter has been too long neglected, and further delay would be disgraceful.—*Leader.*

The secretary of the navy has so firmly convinced himself of the superiority of the triple expansion engines that he has instructed the bureau of steam engineering to destroy the plans for the machinery of cruiser No. 1, and prepare plant which will have in view triple expansion engines for that vessel. The cost of construction with triple expansion engines will still further exceed the limit of the law, but the secretary is confident that he will secure an additional appropriation for the vessel that will be sufficient to pay for its construction with the new type of machinery.

THE SANDUSKY STRAIGHT CHANNEL.

The special report of Major Overman in regard to the survey for the proposed straight channel in the harbor at Sandusky, has been received by the senate from the secretary of war. It is a lengthy document, and goes fully into all the matters connected with the project. After dwelling upon the importance of the rapidly growing commerce of the port of Sandusky and describing the history of improvements already made within the harbor, Major Overman goes on to say that the survey demonstrated a very favorable line with comparatively a small amount of cutting to make a channel seventeen feet in depth. A straight channel would obviate the "turns" and "bends" which vessels now entering the harbor are compelled to observe. The liability during winter to fill, too, would be much less, as well as furnishing a shorter line of channel to keep clear. It is also set forth that, being well protected on the east side by Cedar Point, the unprotected cut will not be so liable to damage from storms, especially from northeast gales. The new route from Cedar Point to the city docks would require but one set of range marks for vessels to navigate, and one of these already exists in the city clock tower, which thus furnishes a permanent beacon of service both day and night. In regard to the liability of the new route to fill it is claimed by the report that it has advantages over the existing channel. As the new route would nearly follow what is known as the eastern current, that current would aid in maintaining the proper depth of the channel after it is once obtained. A percentage as low as 3 per cent on the cost of any method of protection will pay for the annual cost of dredging. It is estimated that the construction of the proposed new channel 200 feet wide and seventeen feet deep at low water would cost $96,712. Fully $50,000 will be required to complete the improvements already under way on the existing channel, so that the new channel would cost additional only the difference between that amount and the total for the new channel, or $46,712. The whole improvement could be made in one season if congress would appropriate the money in a lump sum, and contracts could be made to better advantage than if a little is voted each year. The matter has been referred to the committee on commerce, which has now under consideration the river and harbor bill.

The Hennepin canal men are making a last desperate effort again to get their scheme inserted in the river and harbor bill by the senate committee on commerce. Having met with rebuff after rebuff year after year and session after session the backers of the proposed canal are now making use of the war talk to make the claim that the canal would be a service for the transportation of vessels, etc. It is said that the senate committee will vote to add it to the bill, and it is understood that an increase of the aggregate of appropriations from seven to eleven millions will be made including the Hennepin matter. The latter will not find friends in the house, no matter what pleas may be made in its behalf.

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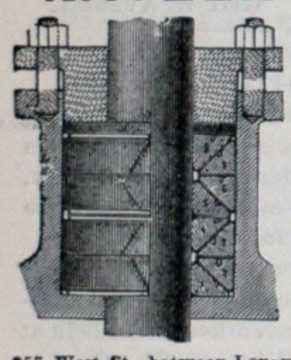

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L. COOPER OVERMAN,
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NOTICE IS HEREBY GIVEN that under a decree of the Circuit Court for the County of Houghton in the State of Michigan, in Chancery, an undivided half part of the steamer Ivanhoe, together with an undivided half part of the masts, bowsprit, boats, anchors, cables, chains, rigging, tackle, apparel, furniture, and all other necessaries thereunto appertaining and belonging will be sold at Public Auction to the highest bidder on Wednesday, the 16th day of March, next, at ten o'clock in the forenoon at the front door of the Court House, in the Village of Houghton, in the County of Houghton, State of Michigan.

Said Steamer and property lie at the port of St. Ignace, being the Village of St. Ignace in the County of Mackinac, in the State of Michigan, and may there be seen.

Dated, Houghton, February 3, 1887.

W. J. RYAN.
Sheriff of Houghton County.

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No 26, Elyria Accommodation	†7 45 A M	.....
No 24, Buffalo Ac'm via Sandusky	†10 30 A M	†10 45 A M
No 24. Toledo Accom via Norwalk	†10 30 A M	†10 45 A M
No. 10, New York "Flyer"	.....	*12 noon
No 12, N Y & B Fast Express	*2 10 P M	*2 45 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*12 15 A M	*12 25 A M
No. 23 Cleveland Express	*2 15 A M	
No 3, Chicago Express via "	§5 20 A M	6 35 A M
No 25, Mich Accom Norwalk	.....	†6 30 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky	*10 45 A M	*10 50 A M
No 9, Chi Pac Ex via Norwalk	*6 15 P M	*6 40 P M
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Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., THURSDAY, FEB. 17.

OUR LAKE DEFENCES.

When the Edmunds retaliation bill was passed the Canadians rose to their full height, tore their hair, and cried out that they yearned for war. They have settled down now, however, to a calmer view of the situation of affairs. The spirit of Chauvin has been laid almost as quickly as it was raised. Jingoism has had its usual say of wind and bluster and has made its tracks. But from the first it was impossible for dispassionate people to believe that the nations which settled the Alabama claims at Geneva without resorting to war, at a time when the feeling between England and the United States was in a very bitter and agitated state, would be foolish enough to fly at each other's throats over disputes between the Canadian and east coast fishermen; disputes which, it is evident, must be more easy to settle by arbitration than the burning questions which were involved in the Alabama claims. As the destructiveness of modern artillery increases, nations do not leap so light-heartedly into war as they used to do; and it is no wonder that there are people who believe and hope that the day will come when engines of destruction shall become so dreadful that war will be impossible.

Judging by what has leaked out concerning the tenor of the correspondence on the fisheries disputes between the United States government and that of England a satisfactory settlement of the vexed questions at issue will be speedily reached, and no blood will be spilled except, perhaps, of one or two ferocious Nova Scotian and Maine cod-fishers who may aspire to settle the great international trouble by drumming on each other's noses in a sailor's tavern.

General Bragg has been credited with writing a letter deploring the publicity which has been given to the unprotected state of our lake and sea coasts, because foreign nations will take advantage of the information thus obtained. We can scarcely imagine that General Bragg wrote any letter of such foolish import. Foreign nations are just as well acquainted with the state of our fortifications as Germany is aware of what is going on along the French frontier, or as any European nation has information in the bureaus of its war office of what its neighbors possess in the way of defence or war armaments. There is a pretty well-known story about the ostrich that sticks its head in the sand and then thinks that nobody can see it. General Bragg would, perhaps, like the United States to be the ostrich among the great nations of the earth. But he is not likely to be gratified so long as our war office authorities attend to their duty of filling pigeon-holes with information which may be found very useful some day or other when it is wanted. If the pocket war-scare which agitated Canada and some people in the United States a few days ago has done any good it is that it has brought out a very useful discussion on the state of the present defences of the lake shores and the ocean seaboards, and on the general question of what would be the best means of improving them. It has brought out the two old antagonists—the advocate of forts at every point of vantage on the coasts and lakes, and the expert who claims that the salvation of the country must depend upon war vessels which will prevent the war vessels of other countries from getting near enough our forts to attack them. In the eastern states the disputants seem to have reached a kind of compromise conclusion that both forts and men-of-war are good, and that the best way to defend the ocean coasts would be to have a judicious combination of both employed. In the lake cities the disputants have resolved themselves into three parties—those who hold for forts alone, those who want plenty of gunboats, and those who hold that neither forts nor gunboats are needed as the lakes are all right as they are.

Of course, the talk of building steel walls around such cities as Cleveland or Buffalo is fantastical and worth about as much discussion as the question whether the members of modern society ought not to go about their daily business in cap-a-pie steel armor because somebody is liable to shoot them. Yet one of our contemporaries gravely argues that a steel wall built across the face of Cleveland would be of no use because modern artillery could fire shells over it into the city. The solution of the question of lake protection will probably resolve itself into the compromise attitude as between gunboats and forts. In France and England a favorite means of port defenses used to be what were called martello towers. These were built far enough out of the port to be able to prevent a hostile vessel getting too close to the seaport to be able to do it serious damage. They were armed with the heaviest guns, which were able to rake all points of the compass. One or two such towers built on the lakes would form very formidable defences, but the great objection to them would be the impediments they would oppose to free traveling, and the danger they would almost certainly prove in thick weather. There should always be the means of providing rapidly a number of steel gunboats in the event of an emergency. These could easily prevent a hostile vessel from shelling any of our lake cities, because instead of quietly allowing it to get near enough to a place for the range of its guns it would be their special business to see to it that it never got the chance of doing anything of the kind. That is one of the chief uses of men-of-war, to keep the enemy at a respectful distance from points of vantage. Now, the RECORD has an idea that the plan of suddenly placing a number of steel cruisers on the lakes is the one which is in favor with the War Department at Washington. The Department does not favor the expensive scheme of building a large number of special gunboats to protect and patrol the lakes from year's end to year's end. It has another plan which would combine economy with efficiency. At all events, we think it has this plan in view from certain inquiries which, as the RECORD stated in its last issue, the war department officers in Buffalo have been making relative to the steel steamer Cambria, built for the Mutual Transportation Co., by the Globe Iron Works Co.

Briefly, the plan seems to be to put the best merchant steamers into commission as soon as foreign difficulties present themselves, the government to provide the necessary armaments and general equipment at the national expense. Thus, the mercantile marine of the lakes will form a naval reserve such as Great Britain has had for several years, and which forms a very powerful supplemental force to her regular navy. This, acting in conjunction with a torpedo corps, would leave the lake ports little to fear from Canada if that country thought again of fighting the United States. At the present moment there are at least forty United States merchant vessels on the lakes that could at short notice be turned into armed cruisers, while the Dominion only possesses comparatively few, among which are the Athabasca, and the Alberta, the Algoma going down in Lake Superior some time ago. All that is necessary for the protection of the lake frontier from any unkind attentions of Canada are, perhaps, a few of these martello towers, and the formation of a system by the War Department which would ensure the immediate supply of armament adapted to each vessel forming our interior naval reserve; but if it is the desire of the United States government to reduce the surplus by spending money for fortifications the people along the northwestern frontier are willing that it should be done. When we consider the aggressive resources of the United States and Canada respectively, we feel convinced there is not much reason for us to be scared on this side of the lakes.

Port Huron takes the cake on heavy captains. We have three whose aggregate weight is 690 pounds.

CHILDLIKE AND BLAND.

There is no question at the present time of so much importance to those interested in lake navigation as the scheme recently developed, of bridging the Detroit river, by railroads. The companies whose lines center at Detroit, although they have been defeated time and again, come up this season in an attitude of humility that is truly alarming. A man of ordinary qualifications would scarcely believe that a railroad corporation could be as timid as those people are in their last effort to throw a bridge across the stream that gives passage to all lake vessels, but such is the case. The matter coming up in this timid shape is the more dangerous and should be watched very closely. The new plan is to gain permission to build a bridge across the Detroit river to be used only in the winter season when navigation is suspended. To be sure, a bridge at such a time would be no detriment to navigation but just here lies the danger, let a railroad corporation put a bridge across this channel, that is open to all the commerce of the lakes, under promise that it will be taken down in the summer and the key to lake navigation is in the hands of the enemy. It therefore becomes the duty of every man interested in the depreciation of vessel property to come forward and by word and act protest against the proposed encroachment. Bridging the Detroit river, which is the neck and throat of lake navigation, would be a deadly peril to our marine interests. Of course, the railroad company claims that the bridge is only meant for the winter season. But there is such a thing as getting in the thin edge of the wedge, and this is precisely what the marine interests have to beware of in the present instance. A winter bridge would very soon be discovered to be a mighty convenient bridge for all the year round. If such a bridge were built there would be an endless succession of disasters. The current is swift, and it would be impossible for vessels to so control themselves that they could avoid drifting against either the abutments or the main structure of the bridge. We are not quite prepared to permit the railroad companies to dominate the traffic between the United States and Canada, and therefore we condemn the proposed bridge across the Detroit river as unpatroitic, stupid, and of the utmost detriment to the traffic of the lake navigation. It must not be built.

THE PORTAGE IMPROVEMENT.

In a paragraph last week it was said that the commission, appointed by the war department, consisting of Colonel Henry L. Abbot, Major O.H.Ernst and Major Chas. J. Allen, had not reported favorably the project of the purchase of the canal, etc., by the U. S. government. In justice to the officers named we hasten to correct the statement. The commission made a favorable report, urging the great value of the Portage Lake canal upon the attention of congress.

"The board, after careful consideration of the subject in all its bearings, and in the light of all the information it has been able to collect, submits the following recommendations:

1. That the offer of the companies be accepted, to transfer all right and title to the canal, the work of improvement on Portage river, the harbor works upon Lake Superior and Keweenaw bay, with all lands and franchises connected therewith, free from all incumbrances and involving no other payments for bonds or otherwise whatsoever, for the gross sum of $350,000.

2. That the route be made a free water-way of the United States, subject to no tolls or assessments whatever, and be placed upon the same footing as to maintenance as the Louisville and Portland canal.

3. That under the authority conveyed by section 2 of the river and harbor act of August 5, 1886, the harbor lines indicated upon accompanying map No. 2 be approved by the honorable secretary of war; that the engineer officer in whose district this water-way is situated be instructed to inspect from time to time and report any and all infringements thereon, and that the proper legal mea s be adopted for abating any such infringements in the future.

The existing bridge would be a very serious impediment to navigation if this route were improved to an extent to justify its use by the entire commerce of Lake Superior; and the same may be said of the existing deposits from the stamp mills. Appropriate legislation is recommended.

4. That a navigable depth of 16 feet at the lowest known lake level, with a minimum width of 70 feet on the bottom, be obtained by dredging throughout the entire extent of the waterway. This will involve the removal of 285,000 cubic yards of sand and hardpan in the canal, at a cost of $99,000, and 149,000 cubic yards, mostly of soft material, in Portage river, at a cost of $30,000. To this should be added about $75,000, roughly estimated, for putting the existing revetment in the canal in serviceable condition, calling for a total appropriation of, say $225,000, including contingencies.

Should the future needs of commerce demand an increase in navigable depth to 20 feet at the lowest known lake level, it is probable that an increase in width of at least 50 feet will also be necessary, involving new revetments, for which an estimate of $200,000 would probably not be excessive; the excavation would amount to 989,000, and 782,000 cubic yards in Portage river, mostly of soft material, which will cost $180,000.

5. That the harbor entrance on Lake Superior be advanced into the lake to a depth of 30 feet by two piers of crib-work loaded with stone; that the new entrance thus made be 400 feet in width and situated in front of the present entrance; that the piers diverge inwardly upon angles of 45 deg. with the axis of the canal to afford interior space to reduce the waves, and that their inner ends be connected with the shore by low piers rising only to the ordinary lake surface, with a view, while excluding sand, to facilitate the escape of waves entering the harbor in storms. Such an entrance would involve 3,940 feet of high piers, at a cost of $689,000, and 1,400 feet of low piers, at a cost of $70,000, calling, with contingencies, for an appropriation of, say, $850,000.

6. That the pier at the Keweenaw entrance be extended to reach water 20 feet in depth by ordinary crib-work, about 2,400 feet long, which, with contingencies, will call for an appropriation of say, $220,000.

For extinguishing private franchises..	$350,000
For opening a through route having a minimum depth of 16 feet and a minimum bottom width of 70 feet..	225,000
For providing a safe entrance from.. Lake Superior.....	850,000
For providing a safe en rance from Keweenaw Bay.....	220,000
Total.....	$1,645.000

When the increasing needs of commerce demand a depth of 20 feet an additional expenditure of $730,000 will be required.

KATZENSTEIN'S METALLIC PACKING.

We have used Katzenstein's metallic packing upon the valve stems and piston rods of the steamers Wallula, Geo. Spencer, Spokane and Charlemagne Tower for the last three seasons and it has given perfect satisfaction. We consider metallic packing the only safe packing to use where high pressure of steam is used as it will not burn out, blow out, or cut the rods. It has been said that metallic packing is expensive, at least more so than rubber, but an incident happened last spring to a vessel on Lake Huron by the blowing out of the rubber packing, that demonstrates the fact that rubber packing is the more expensive inasmuch as three steamers with tow passed a steamer with tow that had three hours run ahead by the blowing out of her packing. It took some three hours to repack her which delay let the other vessels into Buffalo and at the docks ahead of the rubber packed boat. The steamers which passed while the damage was being repaired were all supplied with Katzenstein's metallic packing.

T. B. KELLEY.
GEO. E. AVERILL.

LAKE CARRIERS' ASSOCIATION.

BUFFALO, February 14.

Printed forms of the plan for arbitrating disputes for services rendered vessels in distress, printed in the RECORD last week, will be sent to all the members of the Lake Carriers' Association for signatures.

Communications were read from the American Fishery Union, asking that delegates be sent to a convention, to be held at Gloucester, Mass., February 23. Captain W. P. Henry was appointed a delegate to represent the Lake Carriers' Association, so far as its interests are concerned.

Letters from Major Farquhar and General Poe were read concerning the proposed new bridge across the Sault ste Marie river. It may be regarded as settled that but one bridge will be allowed, and that it will cross the river at or near the rapids. It is probable that it will be required that the draw shall be kept open continually when not in use.

The secretary was instructed to write Hon. W. L. Scott, of Erie, asking him to use his influence toward securing an appropriation of $10,000, for surveying and improving Detroit river, near Bar Point. Also, to write to the lighthouse board at Washington for a fog whistle at the northerly entrance of the Portage Lake canal, Lake Superior.

Signatures to the salvage compact are coming in fast, and it is believed that all the directors and members of the association are in full accord with it.

WANTED.

A captain to sail a passenger steamboat on one of the most popular routes on Lake Michigan. Prefer a man that would take one-fourth interest.
Address GEO. ROBERTSON,
Box 340, Grand Haven, Mich.

FOR SALE.

MARINE ENGINE AND BOILER.

Engine 12x12, steel boiler, 4 feet 6 inches in diameter by 9 feet long. Nearly new, having been in use only one and a half seasons. Also, metallic life boat, 16½ feet long, and an iron steering tug wheel. Address,
244 Water, cor. Cherry St., Toledo, O.

BUFFALO.

Special to the Marine Record.

At R. Mills & Co.'s the fine steamship, building at this shipyard, is progressing finely. She is well advanced and will be ready to launch about the middle of April next. She is calculated to carry over 2,000 tons either of bulk or package freight, being constructed with gangways like a propeller with houses fore and aft, and wide hatches like a steambarge. She is calculated to be an exceptionally strong vessel. Her floors run from bilge to bilge without buts, being an eight and six-inch, side by side, twenty inches in the throat. The main keelson is 18x18, side keelsons 18x14, and 9x14. On both sides of the main keelson is a ¾ inch steel strap 18 inches wide, extending from the stem to the stern post. This is a new departure and can not fail to give excellent results as regards strength. She is diagonally strapped all over with 4½x⅝ ths iron, steel cord all around at main deck 9x¾ ths, steel cord all around at upper deck 12x⅝ ths, attached with steel angle to a steel shelf 24x½ inch. Her engine will be the best fore and aft compound Trout can build, high pressure cylinder 28 inches, low pressure 50 inches, stroke 45 inches, ample power for a larger boat, and two boilers of the very best flange iron of Riter's best make, 9 feet shell 15½ feet long at fire box, 17 feet long on top. She is an elegant specimen of marine architecture and will be a A1* steamship.

The schooner Schuylkill, of the Anchor line, is in drydock. She has received new plank sheer, some new outside planking, new stanchions all around, stringers, main rail, monkey rail, hatches, some new keelsons and calking, at an expense of $4,000. The tug Erie, owned by the same company, is in dock, receiving an entire rebuild, comprising new frames, planking, plank sheer, stanchions, stringers, rail, deck beams, decks, new house, and calking, to cost about $3.000. The steamer Nashua, owned by Captain Charles Hamilton, is receiving new outside planking, between plank sheer and upper rail, making her solid inside and out, recalking, and other general repairs, amounting to $2,000. The steamer Commodore, of the Western Transit Co., is in dock, receiving an extensive overhauling, new carlings, new upper deck, new planking, part new main deck, recalking all over. In addition to this the most important work being done to her is the removal of her old overhead wooden arches, which are to be substituted by a succession of steel arches from the ceiling running from the bilge up over the gangways at upper deck; all to be thoroughly fastened and bound together with a steel shelf piece all around the vessel. This is an idea of John Humble, superintendent of the R. Mills & Co.'s shipyard, and if successful, of which there seems no doubt, it will do away with both wooden and steel over-head arches. It is expected the repairs, etc., will amount to some $20,000. The steamer Lycoming, of the Anchor line, is receiving a thorough calking inside and out and will soon go into dock to have her bottom calked and other repairs. The steamer Oregon, which was in collision with the steamer Alaska in Detroit river, will take drydock next to have damages repaired, which will include straightening of vessel, new planking, new frames where broken, refastening and recalking all over. She will also receive new inside arches on the ceiling 24x⅝ ths, and steel plates on each side of main keelsons 24x⅝ ths. She will also be doubedecked, to adapt her for the ore and grain trade. Repairs, will cost about $15,000. The firm are employing about two hundred and fifty men, and have had the most busy winter in many years. Their docks are already engaged for several other vessels to go into as fast as the docks are empty.

Grady & Maher, shipbuilders, are building for F. L. Danforth, Hon. Jas. Ash and others a very fine tug, 75 feet keel, 16 feet 9 inches beam, 10 feet depth of hold, with a concave bottom of about 7½, with a clear model. Her engine will be 20½x22, and boiler of ½-inch steel 7feet 5 inches by 13 feet 9 inches. She will have all the most modern improvements in her machinery, and probably steam steering gear. She will take the place of the tug Sarah E. Bryant, a tug well known to vessel-men, she having done twenty-two years excellent work, towing in Buffalo harbor, and in the wrecking business. Captain P. Linn, who commanded the Bryant for the last five years, will command the new tug.

At the Union Co.'s shipyard and drydock the splendid new steel steamship Owego, which will when launched be the largest on our lakes, being 350 feet in length over all, building for the Union Steamboat Co., is all in frame, stem and stern post up and about one-half plated, and laying the main and spar deck, and water bottom plating has commenced. A large force or men are working on her and she will most likely be launched in June next, when another steamship, of like dimensions, for the same company, to be named the Chemung, will be commenced. Steambarge V. H. Ketchum is receiving a thorough overhauling, under the supervision of Captain Mallory. The company are sparing no pains to make her A1. She is receiving new top sides, new steel arches, complete new upper deck and some new beams.

The propeller Delaware, of the Anchor line, is receiving new overhead steel arches, new rudder stock, and general repairs.

The propellers Portage, New York, Rochester and Nyack, of the Union line fleet, have all undergone extensive repairs. The steamship H. J. Jewett will receive a new shoe and new rudder to replace the one lost last fall. The steam-hip Tioga has had the damage she sustained by collision with the steambarge M. F. Butters, repaired; the Tioga and Jewett have both been scraped and painted. The steamer City of Rome is getting a new iron boiler house to replace her wooden house.

Captain Simon O'Day, of Muskegon, is in Buffalo, visiting his brother, sister, and friends. Captain John Pringle, of Marine City, and Captains Joe Maderson and Frank Danger, of Port Huron, and P. Fleming, of the firm of Beckwith & Fleming, vessel agents, Chicago, are also visitors to this port.

Frederick Wagner, aged 45 years, died at Buffalo on the 13th inst. He was boss blacksmith and tube welder at Riter's Eagle Boiler Works, where he was employed steadily for twenty-six years. He was buried Tuesday afternoon at Concordia cemetery. The workshops were closed all day, and the members of the firm and his fellow workmen, numbering nearly one hundred, followed him to his last resting place on earth. He leaves a widow and six children who will be comfortably provided for by insurance and by the deceased's perseverance and careful thriftiness.

Wm. Hall, vessel owner, Toronto, Canada, was in Buffalo Tuesday on business.

Donaldson & Whitman, engine and boiler makers, have just completed a low pressure engine 14x16, for the canal steamer, building at Notter's shipyard for M. O'Hallarin, of New York; also, a steel marine boiler 64 inches diameter, 9 feet long, for same. They have built a marine engine 20x22 for the tug, building by O'Grady & Maher, for F. L. Danforth, Hon. Jas. Ash and others. They are compounding the engine of the steambarge D. M. Wilson. The upper cylinder will be 22x30, and the lower cylinder 40x30. They are also doing considerable work on the machinery and boilers of about twenty steamboats, laid up here.

The death of Samuel L. Watson, which had for several days been expected by his physicians and friends, occurred at 11 o'clock Tuesday night. He had been in declining health for a year or more, and was a great sufferer. During the past four or five days he had been almost entirely unconscious. Mr. Watson, as a business man, was best known in marine circles. Born at Sackett's Harbor in 1821, he came to Buffalo in 1842 and at once engaged in the lake trade as a vessel owner. He never sailed, but his close connection with that business may be inferred from the fact that he owned at various times about sixty lake vessels. Of the present fleet he was owner of the schooners J. D. Sawyer, S. L. Watson, Thos. Parsons, and Champion, beside interests in others.

The Union Steamboat Co. have made the following appointments of officers for the coming season, to their steamships: Tioga, Captain W. Robinson; engineer, John Mayberry. H. J. Jewett, Captain John Byrne; engineer, John L. Rawson. Rochester, Captain J. W. Moore; engineer, Joseph Phillips. New York, Captain A. A. Phelps; engineer, Joseph Howlett. Avon, Captain Wm. Fletcher; engineer, Wm. Skelton, Jr. Portage, Captain Wm. Thorne; engineer, W. C. D. Gillespie. Starucca, Captain Sam'l Shannon; engineer, Fred Rehbaum. Nyack, Captain R. Rhynas; engineer, H. C. Jordan.

The Lake Erie Boiler Works, of Buffalo, N. Y., have just completed two rectaugular fire box boilers, each 8½ feet in diameter, 16 feet long, for a boat now being built at Cleveland, for Geo. Berryman and others and two Scotch boilers, to carry 160 lbs of steam, for Captain Davidson, for one of his boats now being built at Bay City. They are building one Scotch boiler 11 feet in diameter, 11 feet long, with three furnaces, for the fire boat, Buffalo fire department. Two Scotch boilers each 10½ feet in diameter, 11½ feet long, to carry 160 lbs of steam for Samuel F. Hodge & Company, of Detroit. Twelve Scotch boilers, each 11½ feet in diameter, 11½ feet long, with corrugated furnaces for the two new steamships Owego and Chemung now being built at the Union Drydock Company's yard, for the Union Steamboat Company, of Buffalo. These twelve boilers will be the first marine boilers on the lakes having corrugated furnaces. The Lake Erie Boiler Works, have under consideration specifications for sixteen more Scotch boilers each 14 feet in diameter, to carry 160 lbs of steam. All the flanging, riveting, welding, drilling and handling is done by special hydraulic machinery. In addition to their already extensive plant the Lake Erie Boiler Works, are now putting in two 6 splindle hydraulic drilling machines for drilling the holes in heavy marine boilers, after the plates are formed and in place, which are similar to those already in use at these works. The work will be handled to these drilling machines by two 30 ton hydraulic cranes. These works are said by some of the most eminent marine engineers to have undoubtedly the best equipped plant in this country for the manufacture of the heaviest marine boilers and the work turned out of this establishment to be of the highest class.

The following work is being done by H. G. Trout, King Iron Works, which will soon be finished, when more contracts will be made for summer delivery. He is now setting up in a boat at W. H. Radcliffe's yard in Cleveland, for George Berryman, a fore and aft compound engine, with cylinders 28 and 50x 45 inch stroke with 12 foot Trout wheel. He is building a fore and aft compound with cylinders 28 and 52x45-inch stroke, for James Davidson, to be placed on a boat building at Bay City, and to have a 12-feet diameter Trout wheel; one fore and aft compound engine, with cylinders 28 and 50x45-inch stroke with 12 feet diameter Trout wheel, for boat building by R. Mills & Co., of Buffalo. He is also building a yacht engine with cylinders 15 and 28x16 inch stroke, to be placed in the Falconwood steam yacht, building by G. H. Notter; he is making a new cylinder for the steamer Wocoken, and a wheel for Balize, British Honduras, two wheels for Philadelphia, one wheel for San Francisco, and he has shipped wheels to New Orleans, Mobile, and other southern points. He has been busy all winter, making wheels and shipping and is now making three wheels for New York city boats, with several orders ahead. H. G. Trout's wheel business has more than doubled in the last year, with a great many orders coming, away from the lakes.

WILLIAMS.

DETROIT.

Special to the Marine Record.

The following presidents of Detroit joint stock transportation companies have been elected: Ward's Detroit & Lake Superior Line, W. P. Stevens; Interlake transportation company, P. J. Ralph; Red Star line, Hugh McMillan; Buffalo & Detroit transportation company, A. A. Parker; Tonawanda transportation company, Erastus Corning; Farwell transportation company, Jesse H. Farwell; Parker transportation company, A. A. Parker; Mackinac transportation company, James McMillan; Hamtramck; transportation company, Hugh McMillan; Duck Island transportation company, E. K. Roberts; Detroit transportation company, James McMillan Lake & River transportation company; W. K. Muir; Au Sable transportation company, David Tisdale; Blanchard transportation company, W. D. Morton; Bay City & Cleveland transportation company, Clark Haywood; Northwestern transportation company E. M. Peck; International & wrecking & transportation company, S. A. Murphy. The A. A. Turner transportation company has sold out to A. C. McLeah and others of East Saginaw, and the Merchant's navigation company to the Central Vermont railway company.

E. P. Everett has resigned the position of engineer at the Detroit post office to become engineer in the Michigan Soldier's Home at Grand Rapids. Mr. Everett is an old marine engineer but has not sailed for several years. He has been engineer of the post office for the past ten years; his engine room has been a home for marine engineers during the winter and his many friends will miss his welcome smile and grip when the cold storms of winter approach. Our old friend Ed. was a jolly old soul, and a jolly old soul was he.

TWO HARBORS.

Work on the government breakwater and lighthouse will be begun sometime during the coming month. The breakwater will cost $22,500, and the lighthouse $10,000. Our harbor is naturally one of the finest and best on the lakes, but with this additional protection it will be almost a calm during the northeastern storms, which heretofore caused some trouble to ship men while loading ore at the docks. The work of these improvements will necessitate the employment of a number of men, and be of material value to our town during the coming months.

CLAYTON.

Special to the Marine Record.

The schooner Hartford, now in winter-quarters at Toledo, has been purchased by W. H. Consaul, G. H. McKinley and C. E. Reis, of this place; consideration, $9,000, and will be put in the iron ore trade on the opening of navigation. She will be commanded by Captain William Brooker, last season master of the schooner M. F. Merrick.

The work on the propeller Nipigon is progressing as fast as weather will permit. Mr. Ryan, of Buffalo, the owner, is here, superintending the work. She will be made into a steambarge and will tow a consort.

Some repairs will be made on the schooner American, which will put her in good shape.

The Annie Laura is receiving new cabins, etc., and will be a double-decker, with carrying capacity of three hundred passengers. She will be ready on the opening of navigation, and will run on the Ogdensburg and Alexandria Bay route.

A. R. Brooker has received his appointment as chief engineer of the steamship Escanaba. C. M. M.

MARQUETTE.

The second strike in the mining region occurred Monday at Vulcan mine, Norway, ninety timber men going out and demanding an increase in pay from $1.60 the present rate, to $2. The company made no concessions, promptly paying off the men. The strike occurred without any warning of dissatisfaction on the part of the men. A general strike of the entire force is feared. The strike at the Champion mine is still on with the company firm.

HARBOUR SPRINGS.

Special to the Marine Record.

The schooner Cleveland is in Harbour Springs.

Captain Neil Gallagher, of Harbour Springs, is going to cross the ice to the Beaver Islands, a distance of thirty miles, where he will spend some time in buying cedar ties and posts for John Saveland & Co., of Milwaukee. The captain has been an expert ice traveler for fifteen years in this northern country, and has many friends.

ERIE.

The papers have been signed for the transfer of the steambarge Fred McBrier, of this port, to the Minor Lumber Company, of Alpena, Mich. The McBrier was built in 1881, by James McBrier, an Erie lumber dealer, and was of 640 tons burthen, and the consideration was $42,000.

CHICAGO.

Captain John Connor has been doing some repairs to the schooner Richard Winslow, consisting of six strakes, new floor, ceiling, and ceiling recalked. Her hold is in good shape and ready for loading and the spring trade.

TAKING the hint given by the MARINE RECORD, Congressman Cutcheon, has induced the lighthouse board, to send a man to Portage lake harbor, to report on advisability of placing a pierhead light there. An agent of the treasury department was sent to gather statistics, in view of establishing a custom house. Also will try and get a good appropriation to finish the harbor.

CHIEF SIGNAL OFFICER.

Lieutenant Greely has been more fortunate han most of the Arctic explorers. It is but a few months since, that he was advanced from the grade of lieutenant to that of captain, and now the president has appointed him chief signal officer to succeed Hazen, with the rank of brigadier general. If the senate shall confirm him he will retain his rank as brigadier general even if the signal service shall be transferred to one of the civil departments. This is an extroardinary promotion. The president is undoubtedly convinced that Greely is qualified to perform the duties of chief signal officer. In order to give complete satisfaction throughout the country, however, the new chief will find it necessary to improve his method of predictions, for there has never been a time when there have been so many complaints from all portions of the country of inaccurate predictions as to the weather as there have been within the last few months.

MEASURING THE WIDTH OF A RIVER.

The approximate breadth of a river, or other stream, may be determined by means of the brim of a hat or the peak of a cap and this can be done by a boy as well as a man. The person desiring to ascertain this fact must place himself at the edge of one bank of the river and lower the brim of his hat, or peak of his cap, till he finds the edge just cuts the other bank; then after placing the hand under the chin, he must turn round steadily till he faces some level ground on his own side of the river, and observe when the edge of the peak again meets the ground. The measure of this distance will be very nearly the breadth of the river.

FOR SALE.

A steambarge 136.6 feet over all, 26 feet beam and 10 feet 9 inches depth of hold. Her capacity for lumber is 300,000 or 17,000 bushels of grain. Engine is 38½ by 40, and new Otis steel boiler is now being built for her, 9 by 12 feet, with 2100 square feet of heating surface. Price $13,500. For particulars address,

CAPTAIN F. O. BURROWS.
91 Merchant Ave, Cleveland, O.

HISTORY OF LAKE NAVIGATION.

Written for the Marine Record.

CHAPTER LXXXVII.

In taking up the threads of the history of lake navigation, which was carried up to the close of 1870, we present below the disasters to steam propelled vessels, as contained in the official reports of supervising inspectors of the eighth and ninth districts, Peter J. Ralph and Asaph S. Bemis, respectively. The details of disasters to sailing vessels will follow in their order.

The navigation upon the lakes during the year 1871 was attended with unusual difficulty, and rendered extraordinarily dangerous by the prevalence of dense smoke over those waters during the summer and autumn months, caused by the vast fires in the forests of Wisconsin, Michigan, and Ontario, which, with frequent and severe gales, rendered disasters to shipping in that region frequent and destructive, both to life and property. The long lists of casualties for the year, recounted by the underwriters, show how fearful have been the effects upon the marine interests of that region; and while a great proportion of the number of disasters for the year occurred to sailing vessels, and to persons and property connected therewith, a few of the number also fell upon the steam marine with terrible severity to life and property. The total loss of three large steamers belonging to the eighth district, is recorded, one by fire and two by wreck; only one life was lost therewith. Six other lives were lost by a collapse of flue, and not affected by circumstances above noted.

The following named casualties occurred during the year 1871 to steamers belonging to the eighth district:

On the 8th of April, the towing boat S. V. R. Watson, while engaged in towing the schooner S. G. Simmons out of Chicago harbor, was capsized, about two hundred feet off the north pier. It seems that the vessel had on a good press of canvas, and the tug's tow line got foul, and the vessel struck her and rolled her over before the tow line could be cut. Three lives were lost by this accident. The tug was raised and put in commission again.

On the 9th of April, the tug Satellite, while trying to take the tow line of the barque J. C. King, on Lake Huron, off Point au Barques, got athwart the bow of the vessel, was nearly rolled over, and partly filled with water, but succeeded in reaching shoal water, where she sank. Subsequently she was raised and repaired. By this accident a very promising young man named Willis Stewart, mate of the tug, was drowned. Damage to the tug, $6,000.

On the 27th of April a donkey boiler in use on board of the steamer Mohawk exploded while lying at the wharf in Buffalo, by which accident the chief engineer of the steamer was slightly scalded. The local inspectors made no further report of the matter than as above noted.

On the 25th of May, the tug B. B. Jones exploded her boiler while lying at the railroad dock at Port Huron, instantly killing seven of the crew and scalding one other so that he died a few days after. Two others were injured, but not severely. The boiler was literally torn to pieces and scattered in all directions, making a complete wreck of the boat, which sank immediately. The hull was worthless and was not raised. The local inspectors at Detroit inspected this boiler on the 20th of April, only twenty-four days previous to the explosion, and gave a certificate allowing 82 pounds of steam.

A thorough investigation was held at Detroit, and it appears from the evidence that the tug had been lying at the dock about two and a half hours; that the pony pump for supplying the boiler with water was working when the explosion occurred, and had been working most if not all the time the tug was at the dock, and that just before the explosion the steam-gauge indicated 60 pounds. After a careful consideration of this matter, and finding some of the return tubes partially collapsed, the board gave the opinion that low water was the cause of the explosion, and that Thomas Blanchett, the first engineer, who was killed, was the only person to blame, he having charge of the engine at the time, and had been on watch some four hours previous. Value of tug, $16,000.

On the 4th of July, while the steamer Maine was on her westward-bound voyage from Ogdensburg she collapsed one of the main flues of her boiler, at or near Brockville, on the St. Lawrence river, causing thereby the death of six persons, viz: one passenger, the chief engineer, one deckhand, one fireman, and two men who were working their passage. This case was investigated by the local board at Cleveland on the arrival of the passengers and crew of the vessel at that place. From examination of the boiler, and other evidences obtained, it was ascertained that the boiler had become very foul with sediment and deposit, and that the parts about the fractures had become badly injured by neglect. The chief engineer, who was mainly culpable for such a condition of the boiler under his charge, was among the victims of the disaster.

The steamer Akron, while lying at the wharves at Ogdensburg, on the night of the 19th of August, was discovered to be on fire in the hold. To prevent a total loss of the vessel and cargo, she was scuttled and sunk. The Akron had arrived in port about 9 o'clock in the evening of the 18th, and the fires had been drawn from her furnaces, and the crew had turned in for the night, except the usual night watch, who discovered the fire after midnight. The cause of the fire could not be ascertained, and no blame could be attached to any of the licensed officers or crew, as every necessary precaution had been taken to render the vessel safe from fire or otherwise before the crew retired for the night. The steamer was subsequently raised and taken to Oswego to discharge her cargo, which was damaged to the extent of about $3,700. The local board at Oswego condemned the vessel for certain specified repairs. From this action the owners appealed to the supervising inspector, who overruled the decision of the local inspectors, and modified their order for repairs, which were made and the vessel was allowed to continue in commission until the close of the year. Damage to vessel, $3,300; damage to cargo, $3,700; total, $7,000.

On the 19th of July, about midnight, the propeller J. Barber, when on her passage from St. Joseph to Chicago, was destroyed by fire, about ten miles off Michigan City, Indiana. Two lives were lost. This fire, as nearly as can be learned, originated from rags and towels hanging in the space around the smoke-pipe, having been placed there by the porter, and supposed to have dropped into the hold among the pine slabs which the steamer was using as fuel. Estimated value of steamer, $15,000.

On the 30th of August, the steamer R. N. Rice, of Detroit, and the propeller Buffalo, of Buffalo, had a slight collision in the river opposite Detroit. Both boats left the dock about the same time, intending to go down the river; the Rice from Detroit and the Buffalo from the Canada side, opposite, with a tow of barges. The Rice had turned around, and the Buffalo was turning when they came together, the Buffalo striking the Rice on the port quarter, breaking some of the joiner work of the latter.

On the 17th of September, the propeller Dictator, while lying at the dock at Manito island, was run into by the propeller Jay Gould, causing her to sink immediately, with her bow in two and her stern in seven fathoms water. She was subsequently raised and taken to Buffalo for repairs. No lives lost.

On the 20th of September, the small steam yacht George Jerome was sunk while approaching the dock at Windsor, by getting under the port guard of the ferry boat Detroit. No lives were lost, and but little damage done beyond the expense of raising the yacht.

On the 28th of September, about 1 o'clock a. m. the propeller Nebraska, belonging to the ninth district, while lying alongside the Galena elevator, at Chicago, took fire on her main deck, in the vicinity of her boilers, destroying a portion of her upper works and main deck. No lives were lost. The fire was supposed to be the work of an incendiary. The boat was repaired and went into service again. Estimated damage to propeller, $20,000; cargo, $10,000; total, $30,000.

On the 30th of September the steamer Free State, 949 tons burden, of Buffalo, while on her voyage from Chicago to Buffalo, and during the prevalence of thick weather, struck on Grey's reef, in Lake Michigan, and was totally lost, together with her cargo. Vessel valued at $40,000; cargo, $37,270; total, $77,270. No lives were lost, and, from such information and evidence as could be obtained, no blame attached to the officers of the vessel.

The steamer Dean Richmond, 1,416 tons burden, of Buffalo, while on her voyage from Lake Superior to Buffalo, and lying at anchor in Mud lake, a part of the Sault ste Marie river, was totally destroyed by fire on the 29th of October. The vessel was valued at $75,000; value of cargo lost, $44,480; total, $119,480. By this disaster one life was lost, that of the chambermaid of the vessel, who, by the assistance of some person, took refuge upon a gang-plank, and was drowned before she could be rescued. All others of the crew and passengers reached the shores safely in the small boats.

On the 9th of October, the new propeller Navarino, while lying alongside the north pier at Chicago, was destroyed by the great conflagration that visited that grand city on those mournful days ever to be remembered by this generation. No lives lost. Value of steamer, $75,000.

On the 10th of October, the tug Dispatch ran into Point aux Barques reef with five barges in tow. No lives lost. Tug a total loss, estimated at about $10,000.

On the 15th of October, about 8 o'clock in the morning, during a fearful gale, the propeller R. G. Coburn foundered in Saginaw Bay, Lake Huron, carrying down to a watery grave sixteen passengers, the captain and fifteen of the crew, including every officer except the second mate. Twelve of the crew and six passengers were saved in the boats.

The Coburn was a fine, stanch, new propeller, of 867 tons burden, well found in every department, having come out in June, 1870. She was on her passage from Lake Superior, laden with wheat and flour, and when about twenty-five miles to the northward of Point aux Barques, carried away her rudder, immediately became unmanageable, and fell off into the troughs of the sea, where she labored two hours before going down. All testimony in regard to the sad and fearful disaster showed conclusively that the life-saving apparatus was ample and the boats alone would have saved every person then on board of the ill-fated vessel if they had been properly managed. Two metallic life boats were picked up on the Canada shore, right side up, which evidently were not used, except by two of the crew, Porter and Barber, who were found dead upon the beach, near where the boats came ashore. The eighteen survivors had the wooden boats. If the anchors had been let go, so to have brought the vessel's head to the wind, as the depth of water in the locality of the disaster is only from thirty to forty fathoms, and the vessel having good anchors, with ninety fathoms of chain each, there is a probability that this loss of life and property might have been lessened, if not entirely avoided. Value of steamer, $80,000; cargo, $40,000; total, $120,000.

On the 20th of October, the tug Eclipse was burned while lying at the dock at Lakeport, Lake Huron, proving a total loss. Estimated value, $10,000.

On the 21st of October, the steambarge Wyoming, during smoky weather, ran ashore on the west shore of Lake Huron, but was afterward recovered. No lives lost. Estimated damage, $1,500.

On the 16th of November, the tug Ajax sank at the mouth of Saginaw river, and was subsequently raised. No lives lost. Estimate of damages, $400.

The steamer Evergreen City, 797 tons burden, of Buffalo, while on her westward-bound voyage from Buffalo, on the 18th of November, went ashore in a gale on Long Point, Ontario. The vessel and cargo considered a total loss. Vessel valued at $12,000; cargo, $2,000; total, $14,000.

These comprise all the accidents worthy of notice that occurred to steamers during this most disastrous year, which will long be remembered by navigators on our great northern lakes on account of the dense smoke and fearful gales that prevailed.

By the disasters in the ninth, three steamers went out of service, with an aggregate tonnage of 3,144 tons, and the property lost amounted of $217,750.

Thirty-nine new steam vessels of all classes, with an aggregate burden of 14,201 tons, were added to the ninth district during the year and twenty-two added to the eighth.

CANAL TOLLS.

The following petition of the council of the Kingston board of trade was adopted at a recent meeting:

That your petitioners would desire to approach your excellency in council, or in parliament praying for the abolition or permanent reduction of tolls on grain and merchandise carried through the Canadian canals. And that certain partial concessions of a temporary character have from time to time been granted and faithfully acknowledged. That the reduction of canal tolls on grain to two cents per ton, first conceded by order in council of the fourth of July 1885; and renewed on 21st of April 1886; has proved of great benefit to both the export and import trade of the dominion. And the early date upon which it was announced in 1886 greatly enhanced its value, by enabling freight arrangements to be entered into, before the opening of navigation, the result throwing a remarkable increase in the volume of European export trade, via the St. Lawrence during that season. That it is in the opinion of your petitioners, a question of paramount importance that the reduced rate of two cents per ton on grain, which has prevailed the last two years, should again prevail the coming season, or, if possible, be entirely abolished. Or, in any event, an order-in-council should at once be issued, making the rates the same as last year, for even now contracts are being made for large quantities of grain at western points, awaiting trans-Atlantic shipment, for transportation via the Erie canal, a considerable share of which might be secured for the St. Lawrence route, were it possible to quote rates on the basis of reduced canal tolls. The city of Kingston is peculiarly situated in this matter, located as we are, at the foot of lake Ontario, the termination of lake navigation; and, having the best harbor on the chain of lakes, and where the lake vessels discharge their cargoes into river barges, and to the trade people, it is a question of the greatest importance whether the Canadian route gets its share of the volume of grain passing through from the west to the sea board Whereas, otherwise our marine are idle and our seamen out of employment, and our wharves and shops adjacent to the water are doing very little trade, but when as last year, when all our craft were engaged, the trade was at all times good. There is another forcible argument in favor of present and immediate action; that as soon as the reduced rate of canal tolls is conceded, large quantities of tonnage will at once be in request by forwarders and others, who will be chartering the same in advance of the season of navigation; which must immediately benefit the inland ship building interest by creating a demand for vessels, and further that the increase of inland tonnage thus secured will be available on a return journey for conveyance of goods arriving by the St. Lawrence route, and so stimulate not only the export trade of the dominion but the import trade also, by rendering the trans-Atlantic carriers westward certain of inland water freight room on arrival at the head of ocean navigation. Wherefore your petitioners do earnestly pray your excellency in council to continue the reduced rate of two cents per ton of canal tolls on grain, conceded in 1885 and 1886, and that an order in council to that effect be forthwith promulgated, and further that it shall remain in force until parliament shall legislate the abolition of tolls on Canadian canals. And your petitioners as in duty bound will ever pray. Signed on behalf of the council of the board of trade of the city of Kingston.

LIFE-SAVING LINE CARRIER.

An exhibition of the Cunningham line carrying rocket was given at the arsenal grounds, Washington, last week before the board of supervising inspectors of steam vessels, in annual convention in that city. So great is the present interest in all matters pertaining to the saving of life in case of wrecks at sea, on account of the numerous disasters which have occurred of late, that a large audience of interested officials was also present. Several members of congress, representatives of the life-saving service, superintendent of the revenue marine service, and several navy and army officers were among the number. Three rockets were fired in quick succession, with great accuracy, and said to have attained distances of flight never before equaled by any other appliance for similar purposes. Those in attendance were loud in their praises of the invention, and fully agreed to the claims made by its friends, its unequaled range making it an indispensable adjunct to the life saving service, and its simplicity and cheapness commending it as the first appliance of the kind which may be practically carried on board of vessels for purposes of their own salvation. In many recent cases, vessels might have cast a line ashore from their own decks where no help could reach them from the shore, thereby saving many lives, There is no doubt but that rockets may be so constructed as to attain any desired range to one mile, or over, and from their peculiar construction they are certain to be more accurate than any of previous manufacture because of uniform diameter from point to tip, instead of having the side stick as heretofore.

THE BULKING QUESTION.

The Express says: The elevator people are not moving very rapidly in the direction of granting the request of the grain dealers to bulk the Duluth grain. President Bloomer has been away most of the time since the request was made and no decision has been arrived at. The only reply that was sent to the meeting of the merchants' exchange trustees yesterday was a letter stating that nothing had been done and asking further time. The reluctance to do anything apparently remains. President Bloomer no doubt states the opinion of the elevator owners generally when he says that the situation of Buffalo as a grain port is peculiarly unfavorable to bulking grain. The large cargoes and the rapid movement of most grain are cases in point.

It is said they are willing to give negotiable warehouse receipts, but they prefer to do so by cargo rather than by grade. Here is the point at issue. One party wants the identity kept and the other wants receipts by grade only, holding that they are much more negotiable and satisfactory to the trade. The objections, as restated by Mr. Bloomer, are several. Buffalo has a reputation for handling grain rapidly. Can she keep it if all grain must be inspected as it goes into elevator? He sees no way of inspecting at night, for you can't tell red wheat from white then. Most of our grain goes straight through the elevator and would be bulked only in name anyhow. Besides, there is the charge that certain dealers want the grain bulked "just to gamble on," as Mr. Bloomer states it, and there is objection to accommodating such demands.

Mr. Frank Chapman of Morristown has ordered the construction this winter of a new steam yacht, which is expected to prove a fine craft. She will probably be about fifty feet in length and fitted with an eight horse power coal oil engine. She will likely be built at Morristown by Mr. John Harris, shipbuilder, of this town.—*Brockville Recorder.*

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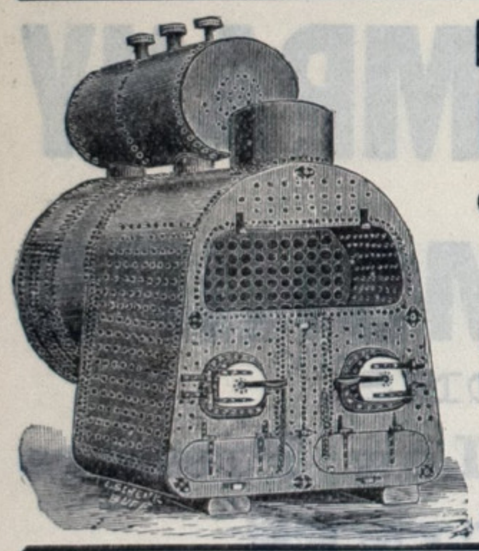

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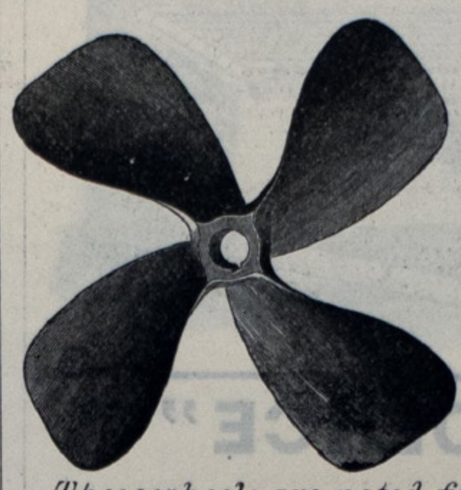

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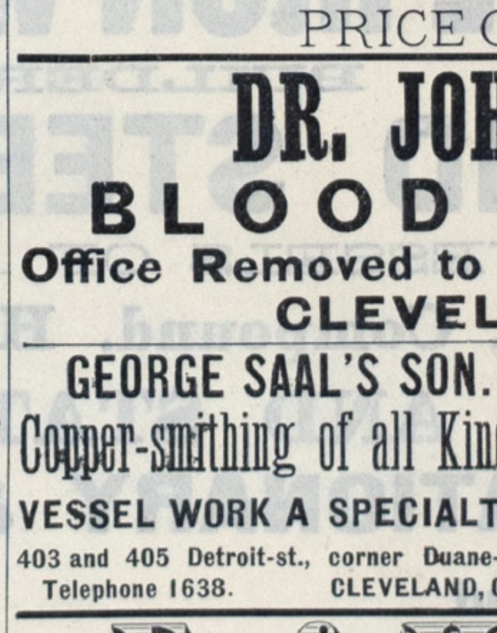

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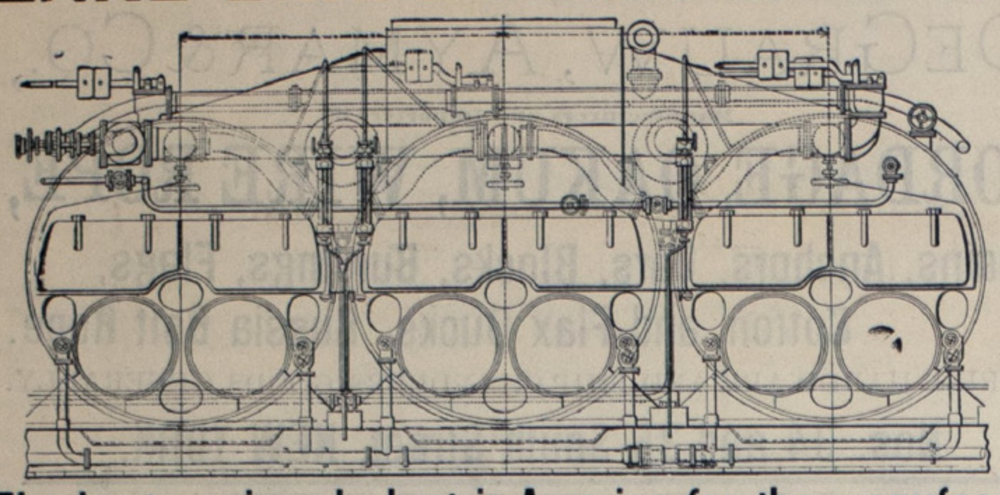

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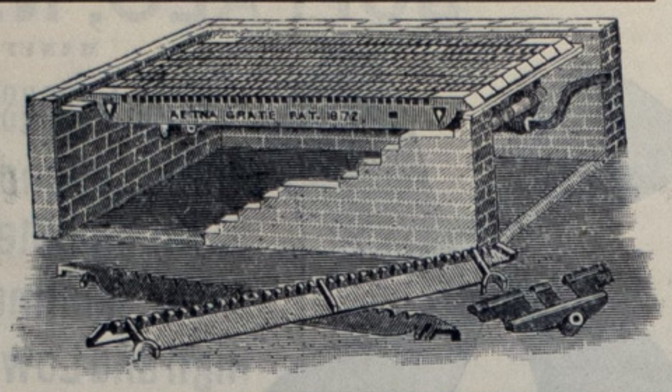

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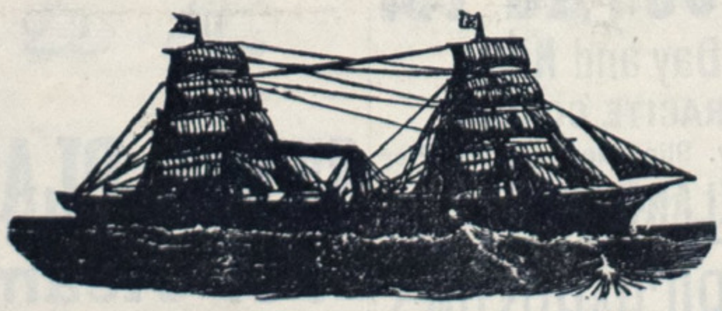

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